1190940

RE: Fw: RCTS sludge volumes

Gusek, Jim to: Karl_Ford, Tim Tsukamoto 03/27/2008 08:48 AM

From: "Gusek, Jim" <Jim_Gusek@golder.com>
To:
Cc: <Chau_Nguyen@blm.gov>, forrest.sabrina@epa.gov, Reisman.David@epamail.epa.gov, <stephanie_odell@blm.gov>, <Jerry_Goedert@URSCorp.com>

All:
14,400 gallons per 8 hrs is 1,800 gallons per hour.
Say you have a 4x4 pickup with a 500 gallon tank (this is a payload of 4,165 lbs or 2 tons) - OK for downhill haul, return empty.
How many pickups would you need to deliver 1,800 gph?

From Google Earth, let's say it's 3 miles round trip.
Due to the steep terrain, let's say your average travel speed is 5 mph.
The round-trip travel time would be about 36 minutes - assume 24 minutes to load/unload + delays = 1 hr/trip
Delivery rate = 500 gallons per hour per 4x4.
You'd need 3.6 (say four) 4x4 trucks to deliver 1,800 gph.
If you had some modest amount of water storage at Gladstone, you might work over the weekend or while the Cement Creek MIW is being treated to get a jump start for the Gold King treatment event with only two pickups. Also, the travel speed might be too conservative. I wouldn't recommend going higher than a 500 gallon tank.
Regards,
Jim

-----Original Message-----
From: Karl_Ford@blm.gov [mailto:Karl_Ford@blm.gov]
Sent: Thursday, March 27, 2008 7:47 AM
To: Tim Tsukamoto; Gusek, Jim
Cc: Chau_Nguyen@blm.gov; forrest.sabrina@epa.gov; jgusek%golder@blm.gov; David Reisman; stephanie_odell@blm.gov
Subject: Re: Fw: RCTS sludge volumes
Also, a correction to our thinking on Gold King. 30 gpm is 14,400 gal/8hrs. Probably not feasible to truck to Gladstone. Not safe to drive
a big water truck down that road...
Karl

"Tim Tsukamoto" <tsukamoto.tim@gmail.com>
To
Karl_Ford@blm.gov, "David Reisman" <Reisman.David@epamail.epa.gov>,
03/26/2008 05:54

PM

forrest.sabrina@epa.gov,
stephanie_odell@blm.gov,
Chau_Nguyen@blm.gov

cc
jgusek%golder@blm.gov

Subject
Re: Fw: RCTS sludge volumes

Hello Karl,
Please find below the sludge estimates for Gladstone and Gold King. They
are less than I would have guessed for sure.
Gladstone assuming: 300 gpm treatment rate Al=3.67 mg/L, Mn=5.65 mg/L, Fe=61 mg/L, and SO4=821 mg/L
We would generate: ~9.4 kg per hour of metal hydroxide/oxide sludge assuming a dry bulk density of 0.5 g/cc that would be equivalent to ~0.67
ft3 per hour
Gold King assuming: 30 gpm treatment rate Al=48 mg/L, Mn=67 mg/L, Fe=807
m/L and Zn=43 mg/L
We would generate: ~12.7 kg per hour of metal hydroxide/oxide sludge and 11.7 kg of gypsum
assuming a dry bulk density of 0.5 g/cc that would be equivalent to 1.72 ft3 per hour
These calculations assume that all of the sludge is captured by the filtration system. The issue with the Gladstone filtration is that 300 gpm
will be difficult to pass through the filter bags and the filtration may not be effective for several hours until the sludge layer inside the bag builds up. The use of sand in conjunction with the geotextile has been very effective at dewatering sludge at Leviathan.
Because we are not generating all that much sludge it may make sense to rent a rolloff bin (or two) and convert it (them) into a sand filter. I think we could do that relatively inexpensively. Rain for rent rents

the
bins for ~$45/day plus delivery. We would also have to purchase some geotextile, piping and sand. The biggest expense would likely be in disposal.
I hope this helps.
Regards,
Tim

On Wed, Mar 26, 2008 at 2:04 PM, <Karl_Ford@blm.gov> wrote:

Tim,
Assuming we separate the sludge, any idea on the wet volume to be managed?
Assume we do a full scale test at Gladstone and only 30 gpm for Gold King.

Karl
----- Forwarded by Karl Ford/NOC/BLM/DOI on 03/26/2008 03:03 PM -----

Forrest.Sabrina@epamail.epa.gov

To: jgusek@golder.com, Karl_Ford@blm.gov
03/26/2008 02:45 PM

cc

Subject
RCTS sludge volumes

Did you both crunch out a range of sludge volumes at the meeting? I am
wondering if I should have a brainstorming talk with Todd Hennis as soon
as I can, and let him know that some alternatives and costs will be forthcoming.

I'd like to see what sorts of ideas he comes up with for the demo and long-term needs, and get a feel for whether he will balk. If he's wanting to be proactive, now is the time for him to add this kind of work into what he and his contractor are scoping under the Administrative Order on Consent.

Sincerely,

Sabrina Forrest
Site Assessment Manager
U.S. Environmental Protection Agency
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